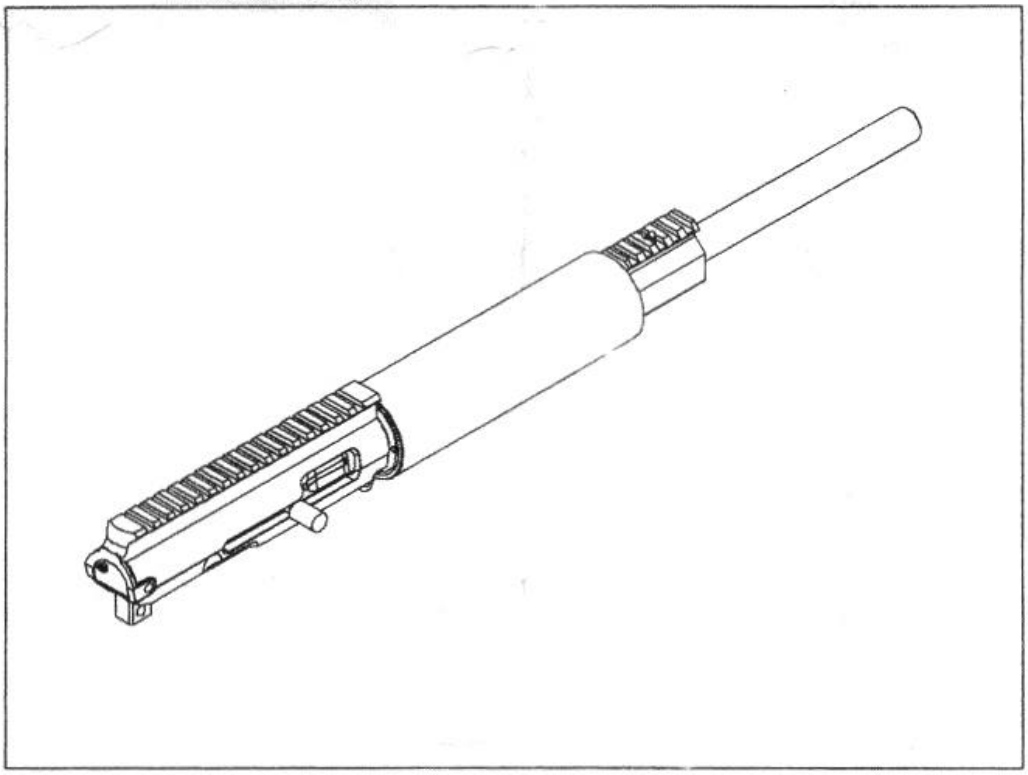
V22 AR-15 22LR Dedicated Upper

V22 Operation and Maintenance Manual



THE BASIC RULES OF SAFE FIREARMS HANDLING

LEARN THE MECHANICAL AND HANDLING CHARACTERISTICS OF THE FIREARM YOU ARE USING.

Not all firearms are the same. The method of carrying and handling firearms varies in accordance with the mechanical provisions for avoiding accidental discharge and the various proper procedures for loading and unloading. No person should handle any firearm without first having thoroughly familiarized himself with the particular type of firearm he is using, and with safe gun handling in general.

2. ALWAYS KEEP THE MUZZLE POINTED IN A SAFE DIRECTION.

Be sure of the bullet stop behind your target, even when dry-firing. Never let the muzzle of a firearm point at any part of your body or at another person. This is particularly important when loading or unloading a firearm. In the event of an accidental discharge, no injury can occur as long as the muzzle is pointing in a safe direction. A safe direction means a direction which will not permit a discharged bullet to strike a person, or to strike an object from which the bullet may ricochet. A safe direction must take into account the fact that a bullet may penetrate a wall, ceiling, floor window, etc., and strike a person or damage property. Make it a habit to know exactly where the muzzle of your gun is pointing whenever you handle it, and be sure that your are always in control of the direction in which the muzzle is pointing, even if you fall or stumble. Keep you finger off the trigger until you are ready to shoot.

3. FIREARMS SHOULD BE UNLOADED WHEN NOT IN USE.

Firearms should be loaded only when you are in the field or on the target range or shooting area, ready to shoot. Firearms and ammunition should be securely locked in racks or cabinets when not in use. Ammunition should be safely stored separate from firearms. Store your firearms out of sight of visitors and children. It is the gun owner's responsibility to be certain that children and persons unfamiliar with firearms cannot gain access to firearms or ammunition.

4. BE SURE THE BARREL IS CLEAR OF OBSTRUCTIONS BEFORE SHOOTING.

Even a bit of mud, snow or excess lubrication oil or grease in the bore may cause the barrel to bulge, or even burst on firing, and can cause serious injury to the shooter and bystanders. Be sure that you are using ammunition of the proper caliber and loading for the gun you are using. If the report or recoil on firing seems weak, or doesn't seem quite right, CEASE FIRING IMMEDIATELY, unload your firearm, and check to be sure that no obstruction has become lodged in the barrel.

5. BE SURE OF YOUR TARGET BEFORE YOU SHOOT.

Don't shoot unless you know exactly where your bullet is going to strike. Be sure of the bullet stop behind our target, even when dry-firing with an unloaded gun. If you are in the field hunting, do not fire at a movement or noise- Take the time to be absolutely certain of your target before you pull the trigger.

6. WEAR SHOOTING GLASSES AND HEARING PROTECTORS WHEN YOU SHOOT.

All shooters should wear protective shooting glasses and adequate hearing protectors when shooting. Exposure to shooting noise can damage hearing and adequate eye protection when shooting is essential.

7. NEVER CLIMB A TREE OR FENCE WITH A LOADED FIREARM.

Put the firearm down carefully before climbing a fence, and unload it before climbing or descending a tree or jumping over a ditch or other obstruction. Never pull or push a loaded firearm toward yourself or anther person. When in doubt, or whenever you are about to do anything awkward, unload your gun.

8. DON'T SHOOT AT A HARD SURFACE, OR AT WATER.

Bullets can glance off many surfaces like rocks or the surface of water and travel in unpredictable directions with considerable velocity.

9. NEVER TRANSPORT A LOADED FIREARM.

Firearms should always be unloaded before being placed in a vehicle. A suitable carrying case or scabbard should be used to early an unloaded firearm to and from the shooting area.

10. AVOID ALCOHOLIC BEVERAGES WHEN SHOOTING.

Don't drink until the day's shooting is over. Handling firearms while under the influence of alcohol in any form, or medications that could affect your judgment or co-ordination, constitutes a criminal disregard for safety of others.

Characteristics of Weapon:

Action:	Blow back, air cooled, magazine fed
Length (upper):	22.75 in.
Length (on A2 fixed butt stock lower):	34 in.
Caliber:	22 Long Rifle
Barrel:	16.5 in., 6 groove, right hand I in 16"

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Weight off upper unit w/o lower and ammunition: 4 lbs.

Weight of Magazine (empty): .25 lbs.

Weight of Magazine (full) .4 lbs.

Description:

The V22 conversion unit is a dedicated upper receiver assembly used to convert the ARI5 family of rifles from center fire ammunition to 22LR ammunition. The conversion unit operates with a simple blow back unlocked bolt. The bolt impacts on the buffer plunger at the rear of its stroke to dampen the recoil and smooth the operation of the gun. The unit has been designed to be reliable, accurate, and easy to disassemble and clean. The standard V22 conversion unit contains one complete barreled upper receiver assembly without sights and one 10 round magazine.

Installation:

Remove the magazine and clear the weapon of ammunition. Check the chamber to ensure that it is clear of ammunition. Retract the bolt to cock the hammer. Place the selector on SAFE. Push out the rear take down pin from left to right. Push out the front take down pin from left to right. (note: on Colt model guns the front take down pin may be a screw that needs to be removed) Remove the upper receiver from the lower receiver. No parts are required from the existing upper receiver with the V22 conversion kit.

Align the front lug hole of the V22 upper: receiver unit with the lower receiver front take down pin. (note: early Colt guns with the large front screw take down will require an reverse offset adapter pin to use the V22 upper. These can be found at most suppliers of ARl5 parts.) Close the upper V22 receiver and the lower receiver and push in the rear lower receiver take down pin.

Test cycle the bolt by moving the bolt handle backwards and forwards to ensure it move to its limits. The V22 conversion is now ready to be loaded and fired.

Ammunition:

The V22 Conversion unit is designed to fire 22LR high velocity ammunition reliably. Use of other than high velocity ammunition might lead to functioning problems and is therefore discouraged.

Loading and Firing:

Insert up to 10 rounds of 22LR high velocity ammunition into the magazine. Insert the magazine into the magazine well of the gun until the magazine catch holds it in place. Retract the bolt handle fully to the rear and release to chamber a cartridge. The selector should remain on SAFE until you are aiming at your intended target and are ready to fire.

After each shot the bolt will cycle, eject the spent case and pick up a fresh cartridge from the magazine. When the magazine is empty the bolt will not lock open as in the center fire version of the ARI5 family of rifles.

Unloading:

Unloading the V22 is identical to the AR family of rifles in center fire caliber. Remove the magazine and pull back the bolt handle to ensure the chamber is clear of ammunition. Close the bolt and set the selector on SAFE. The unit is now unloaded.

Disassembly:

Remove the magazine and unload the weapon as described above. Push out the rear lower receiver take down pin from left to right. Allow the upper receiver to pivot open on the front lower receiver take down pin.

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Slightly depress the plug assembly in the rear of the V22 upper receiver. While slightly depressing this assembly, push the upper take down pin from right to left and remove. Set the pin aside for reassembly of the upper receiver unit. (Fig 1)

Remove the plug assembly from the upper receiver. (this assembly includes the plug, 2 recoil springs, 2 guide rods, and the buffer plunger). Set this assembly aside for cleaning and reassembly. (Fig 2)

Remove the bolt handle from the bolt by pulling it directly outwards. The guide rod retains the bolt handle when assembled. Set aside for cleaning and reassembly. (Fig 3)

Tilt the upper receiver so the barrel points upwards. The bolt will slide out of the upper receiver. (Fig 4)

The firing pin movement should be checked while the bolt is out of the upper. If the pin returns to its rearward position under its own spring tension then no further action is required. Otherwise, if the firing pin is sticking in the bolt remove the firing pin retain pin with a punch from right to left and clean the firing pin, spring and bolt interior. Reassemble in reverse order.

The magazine may become fouled with debris after much use. The V22 magazine has been designed so that it can be taken apart for cleaning. Remove the two screws holding the magazine halves together. Pay close attention to follower and magazine spring orientation for reassembly. Reassemble in reverse order insuring the orientation of the follower and spring.

No further disassembly is required for the normal cleaning and operation of the V22 conversion unit. Further disassembly should be done by a certified gunsmith.

NOTE. *The barrel can be removed from the receiver by doing the following:*

1. *remove the front sight block set screw and slide the sight block off the barrel*
2. *unscrew the hand guard and remove*
3. *carefully pull the barrel out of the receiver to prevent damage to the ejector*
4. *Reassemble in reverse order.*

Cleaning:

.22 rimfire ammunition is externally lubricated. This wax like lubrication aids to keep the barrel bore free from lead build up but it also shaves off and makes these weapons dirty extremely fast. The V22 conversion incorporates several methods of increasing the number of rounds fired between cleaning but even it will eventually get dirty enough to fail to function.

Products used to clean the V22 conversion should be compatible with aluminum and anodized finishes. When cleaning the barrel, special attention must be taken not to bend or damage the ejector mounted on the barrel. Key areas that require cleaning are the guide rods, bolt face and barrel chamber face area.

Reassembly:

The V22 upper receiver conversion is easy to reassemble. Reverse the steps for disassembly. Makes sure the bolt handle is secured in the bolt by the guide rod.

DO NOT SHOOT THE V22 UPPER WITHOUT THE BOLT HANDLE PROPERLY INSTALLED.

Lubrication:

Lightly oil the guide rods before each shooting session. The face of the hammer should also be oiled before each shooting session. The bolt body does not contact the upper receiver housing so there is no reason for lubrication on the outside of the bolt.

Before storing the V22, all metal parts and the barrel bore should be lightly oiled after cleaning to inhibit corrosion.

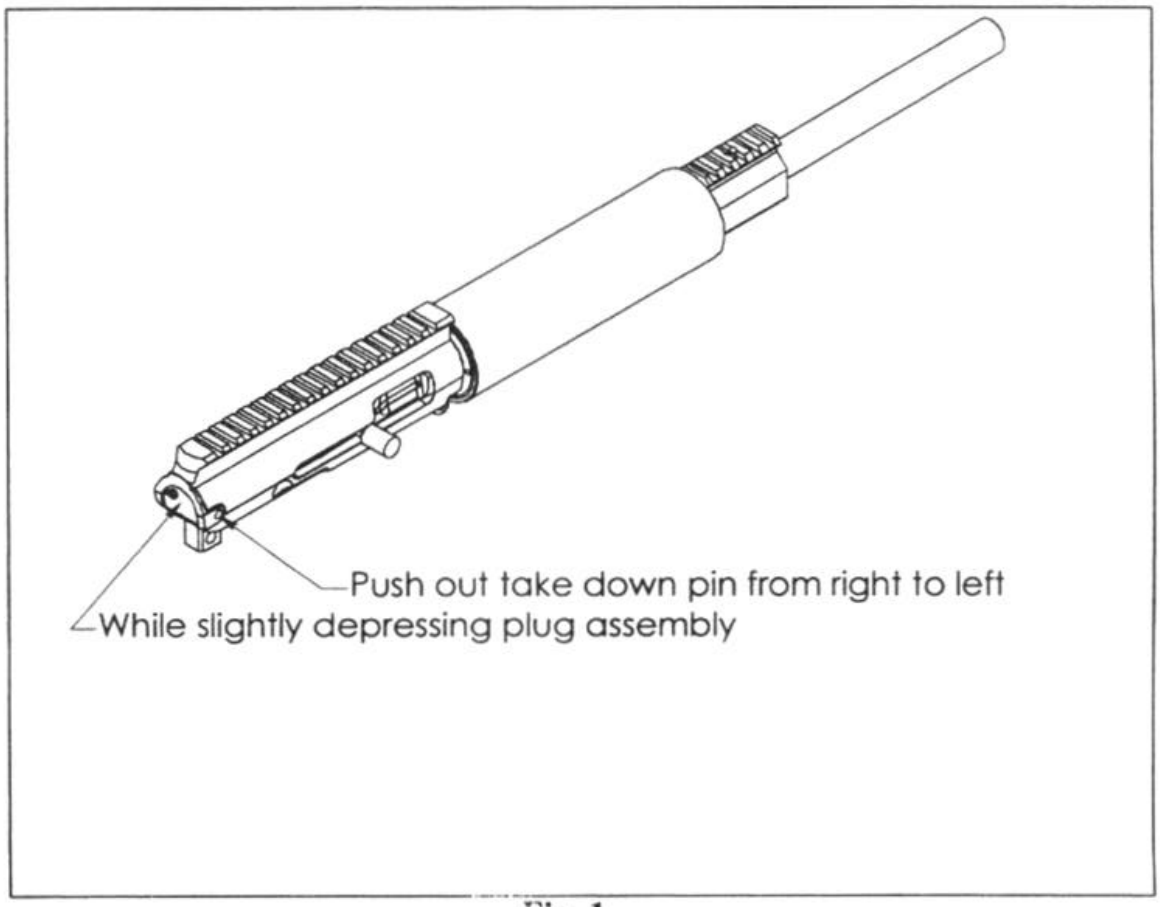


Fig. 1

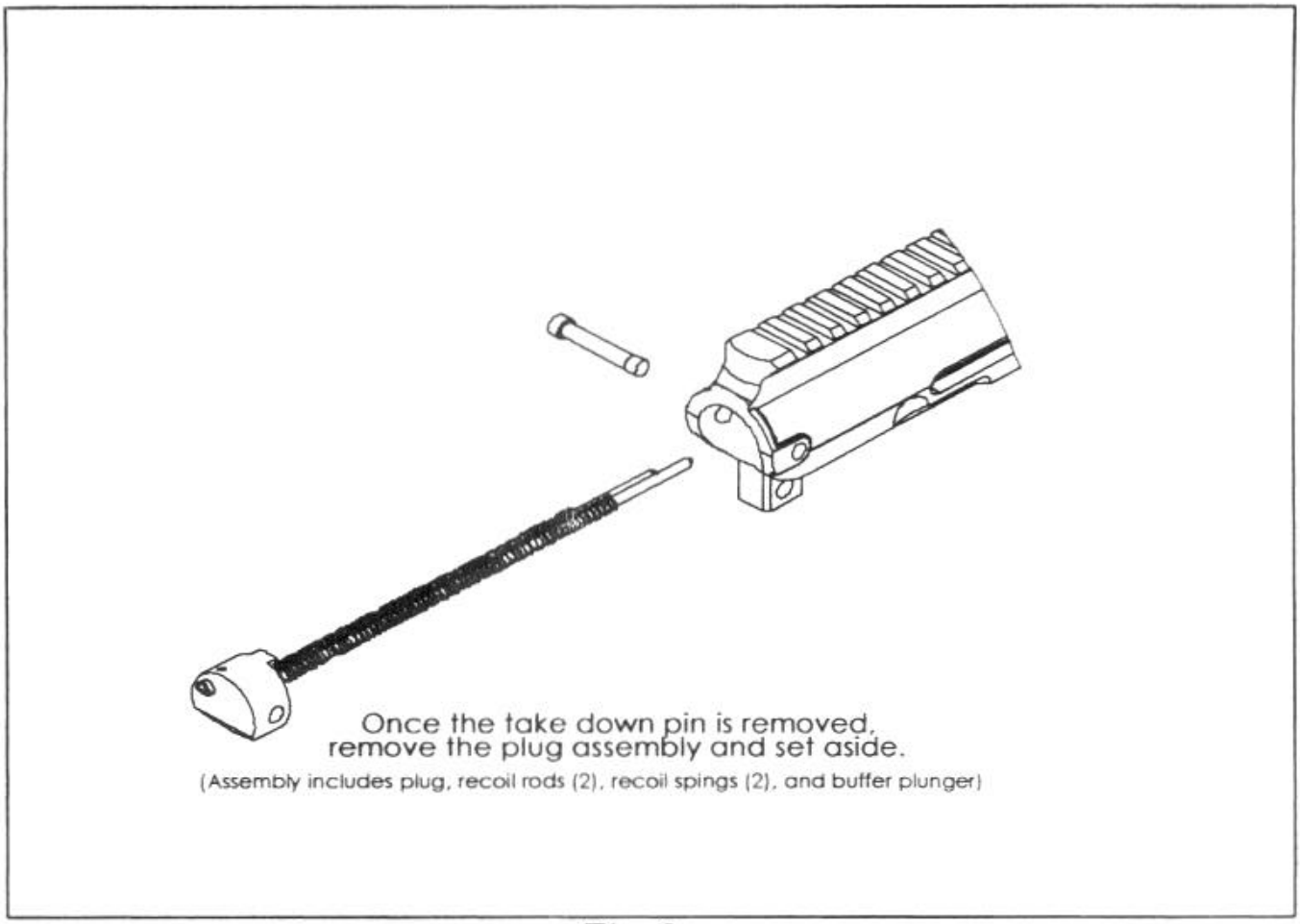
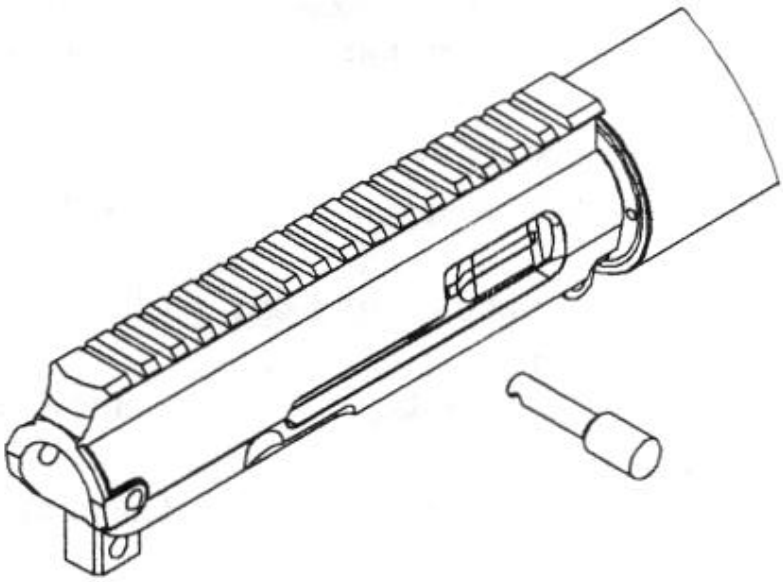

Once the take down pin is removed,
remove the plug assembly and set aside.
(Assembly includes plug, recoil rods (2), recoil spings (2), and buffer plunger)

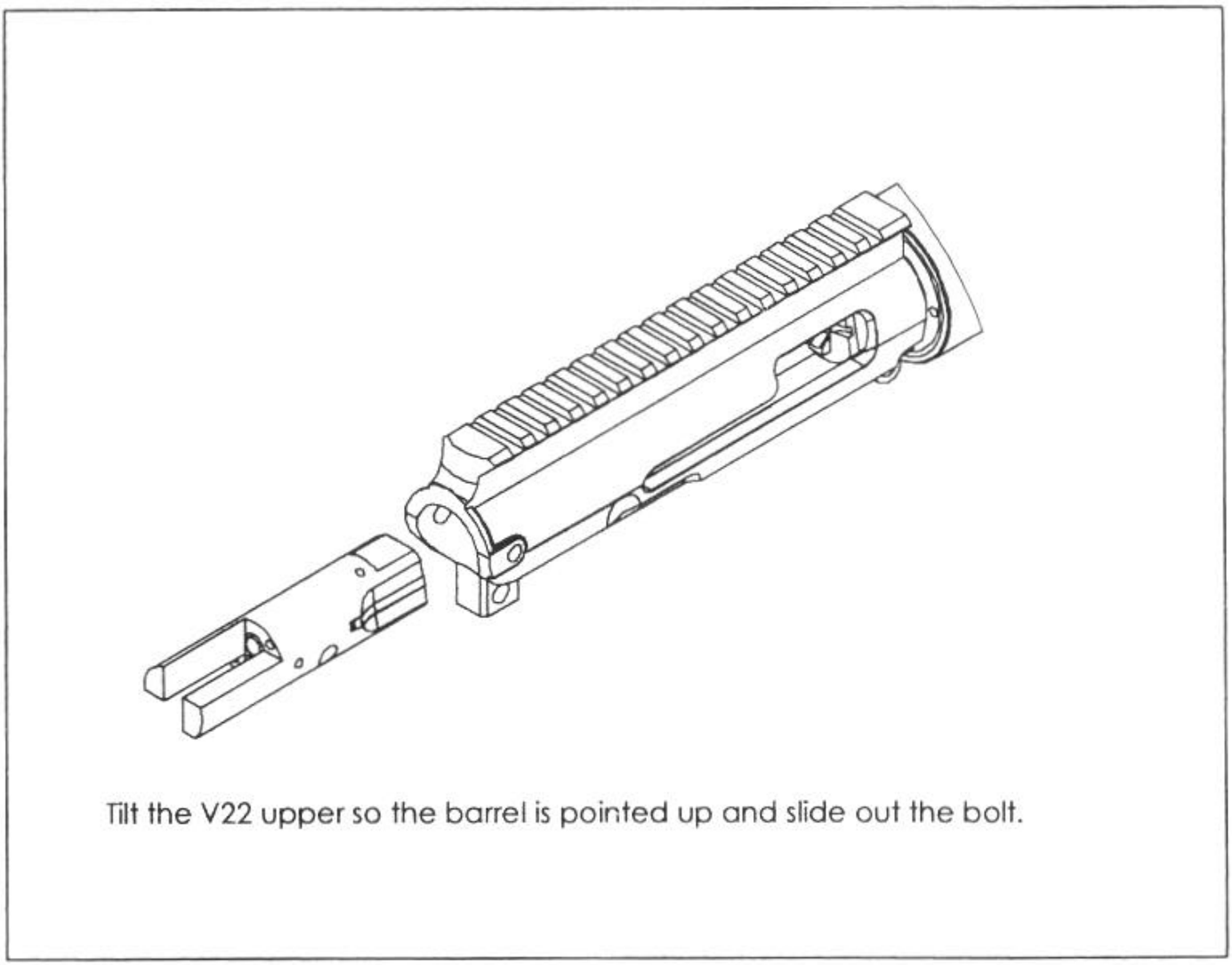
Fig. 2



Remove the bolt handle from the bolt.

Fig. 3

V22 AR-15 22LR Dedicated Upper



Tilt the V22 upper so the barrel is pointed up and slide out the bolt.

Fig. 4

Malfunctions:

Malfunction	Probable Cause	Corrective Action
Failure to fire	1. Selector lever on SAFE	Move selector to FIRE
	2. Damaged firing pin	Replace
	3. Faulty ammunition	Replace ammunition
Failure to open bolt from firing,	1 .Carbon and dirt build-up in chamber	Manually cycle bolt and clean chamber
Failure to extract	1 .Carbon and dirt build-up in chamber	Clean chamber
	2. Dirty or corroded ammunition	Remove ammunition from magazine and clean both
	3. Carbon and dirt build-up	Clean extractor

	in extractor recesses	
	4. Separated cartridge case / head blow out.	Remove remnant of case from chamber
	5. Defective extractor	Replace (factory)
Failure to eject	1. Broken ejector	Replace (factory)
	2. Short recoil	See “Short Recoil” section below
Failure to remain cocked	1. Worn, broken, or missing parts in fire control group	Repair
	2. Short Recoil	See “Short Recoil” section below
Failure to feed	1. Magazine not seated correctly	Reseat magazine
	2. Dirty or corroded ammunition	Remove ammunition from magazine and clean both
	3. Dirty magazine	Disassemble and clean
	4. Defective magazine	Replace
	5. Too many rounds in magazine	Reload
	6. Short Recoil	See “Short Recoil” section below
Double feed	1. Defective magazine	Replace
Failure to chamber	1. Bent ejector	Repair (factory)
	2. Dirty or corroded ammunition	Remove ammunition from magazine and clean both
	3. Carbon and dirt build-up in chamber	Clean chamber
Short Recoil	1. Improper weak ammunition	Use correct ammunition
	2. Dirty or corroded ammunition	Remove ammunition from magazine and clean both
	3. Carbon and dirt build-up in chamber	Clean chamber

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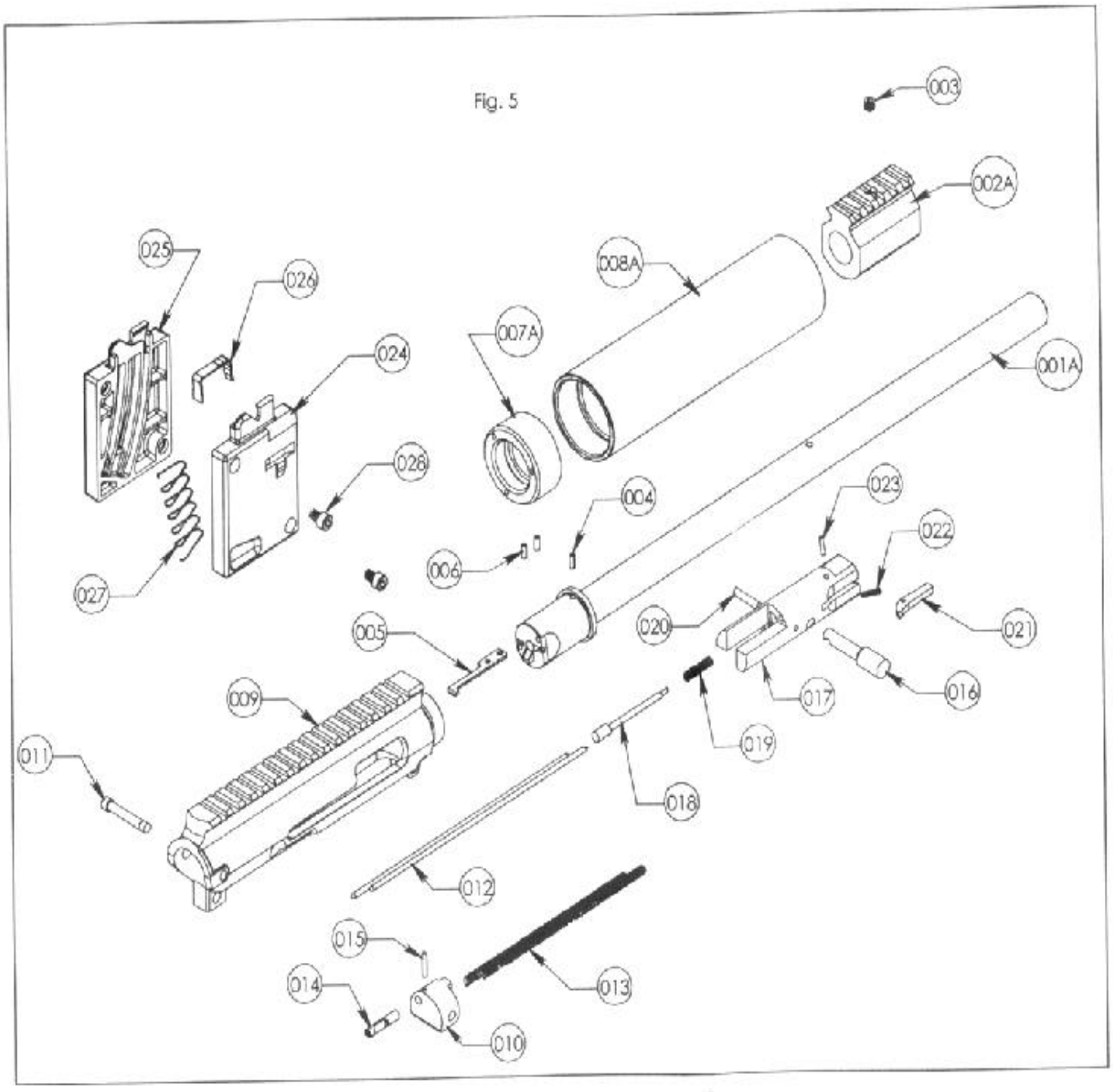

Parts List:

Part Number	Description	No. Required	Figure 5 tag number
V22-001A	16” std. wt. 22LR barrel	1	1
V22-002A	Std. wt. Band front sight block	1	2
V22-003	Hex set screw front sight block	1	3
V22-004	Barrel orientation pin	1	4

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V22-005	Ejector	1	5
V22-006	Ejector retaining pin	2	6
V22-007A	Barrel nut free floating aluminum tube HG	1	7
V22-008A	Short aluminum tube hand guard	1	8
V22-009	Upper receiver	1	9
V22-0l0	Plug	1	10
V22-0l1	Take down pin	1	11
V22-012	Guide rod	2	12
V22-0I3	Recoil spring	2	13
V22-014	Buffer plunger	1	14
V22-015	Buffer plunger retaining pin	1	15
V22-016	Bolt handle	1	16
V22-017	Bolt	1	17
V22-018	Firing pin	1	18
V22-019	Firing pin spring	1	19
V22-020	Firing pin retaining pin	1	20
V22-021	Extractor	1	21
V22-022	Extractor spring	1	22
V22-023	Extractor retaining pin	1	23
V22-024	Magazine housing left side	1	24
V22-025	Magazine housing right side	1	25
V22-026	Magazine follower	1	26
V22-027	Magazine spring	1	27
V22-028	Magazine hex head screw	2	28